Remarks

Claims 1-4, 7-12, and 14-35 are pending and under examination in the subject application. Applicants have hereinabove amended claims 1, 2, 4, 7, 14, 15, and 17. Applicants maintain that the amendments to the claims raise no issue of new matter. Support for the amendments to claim 1 can be found in the specification as originally filed at, inter alia, page 12, lines 4-17; page 8, lines 2-3; and at page 31, lines 7-8. Support for the amendments to claim 2 can be found in the specification as originally filed at, inter alia, page 13, line 25 to page 14, line 18; and at page 31, lines 7-8. Support for the amendments to claim 4 can be found in the specification as originally filed at, inter alia, page 14, lines 23-27. Support for the amendments to claim 7 can be found in the specification as originally filed at, inter alia, page 5, line 31 to page 7, line 10; and page 8, lines 2-3. Support for the amendments to claims 14, 15, and 17 can be found in the specification as originally filed at, inter alia, page 18, lines 1-7. Accordingly, applicants respectfully request entry of this Amendment. After entry of this Amendment, claims 1-4, 7-12, and 14-35 will be pending and under examination.

Claims Rejected Under 35 U.S.C. §112 (First Paragraph)

In the October 19, 2004 Office Action, the Examiner stated that claims 1-4, 7-12, 14, 15, and 17-35 are rejected under 35 U.S.C. §112, first paragraph, for both written description and enablement.

In response, applicants respectfully traverse the Examiner's rejection. Applicants note that the recited calcium salt forms of gangliosides were chosen for coating solid particles because free acid gangliosides were found to clump. In addition, the materials

and methods section on page 31 of the specification clearly describes that *calcium salt forms* of the gangliosides were used. As such, applicants maintain that the calcium salt recitation in the claims is an actual exemplified embodiment, and that it is not new matter. Moreover, applicants maintain that the recited characteristic is explicitly described and clearly enabled in the specification as filed. Accordingly, respectfully request that the Examiner reconsider and withdraw this ground of rejection.

Claims Rejected Under 35 U.S.C. §103(a)

The Examiner stated that claims 1-3, 10, 13, 14, and 17-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Uhlig et al. (Autoimmunity 5:87-89, 1989) in view of Dwyer et al., Uemura et al., Ravindranaths et al., Pestronk et al., and in Beltz et al. as previously cited.

In response, applicants respectfully traverse the Examiner's rejection. Specifically, applicants note that "Ca^{++} salts" of gangliosides as recited in the claimed invention and employed by the applicants, are not explicitly taught by Uhlig et al. Furthermore, the assumption that the Type II ganglioside used by Uhlig et al. is a calcium salt is not supported in light of the fact that commercially available free acid gangliosides are also available (e.g. see Sigma catalogue page 918, **Exhibit A,** annexed hereto), especially in the absence of any mention by Uhlig et al. of ganglioside salt or Ca^{++} salt.

Furthermore, Uhlig et al. in combination with the other cited references do not teach passive adsorption of a Ca^{++} salt of the ganglioside to at least two separate solid particles, as recited in the claims. At most, Uhlig et al. discuss a liposome made from lipids including gangliosides (see page 94-95 of Uhlig et al. and

page 91, "liposome preparation"), i.e. the ganglioside is a constituent of the liposome itself. The ganglioside is not a calcium salt form passively adsorbed onto the solid particle. The remaining cited references, in combination with Uhlig et al., do not cure this deficiency.

Moreover, Uhlig et al. in combination with the other cited references do not teach or suggest "contacting a liquid sample from the subject with the GM1, GM2, GM3, GD1, GD2, GD3, GD1a, GD1b, GT1b or GQ1b ganglioside, the ganglioside being affixed by passive adsorption of a Ca^{++} salt of the ganglioside to at least two separate solid particles" as recited in the claims.

In addition, in regard to claim 2, Uhlig et al. in combination with the other cited references do not teach or suggest a method comprising exposing a liquid sample to two different gangliosides, each affixed by passive adsorption of a Ca^{++} salt to at least two separate solid particles.

Accordingly, applicants maintain that the rejected claims define an invention not obvious from the cited references, and therefore respectfully request that the Examiner reconsider and withdraw this ground of rejection.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee, apart from the enclosed $60.00 fee for a one month extension of time, is deemed necessary in connection with the filing of this Amendment. If any such fee is required, however, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,

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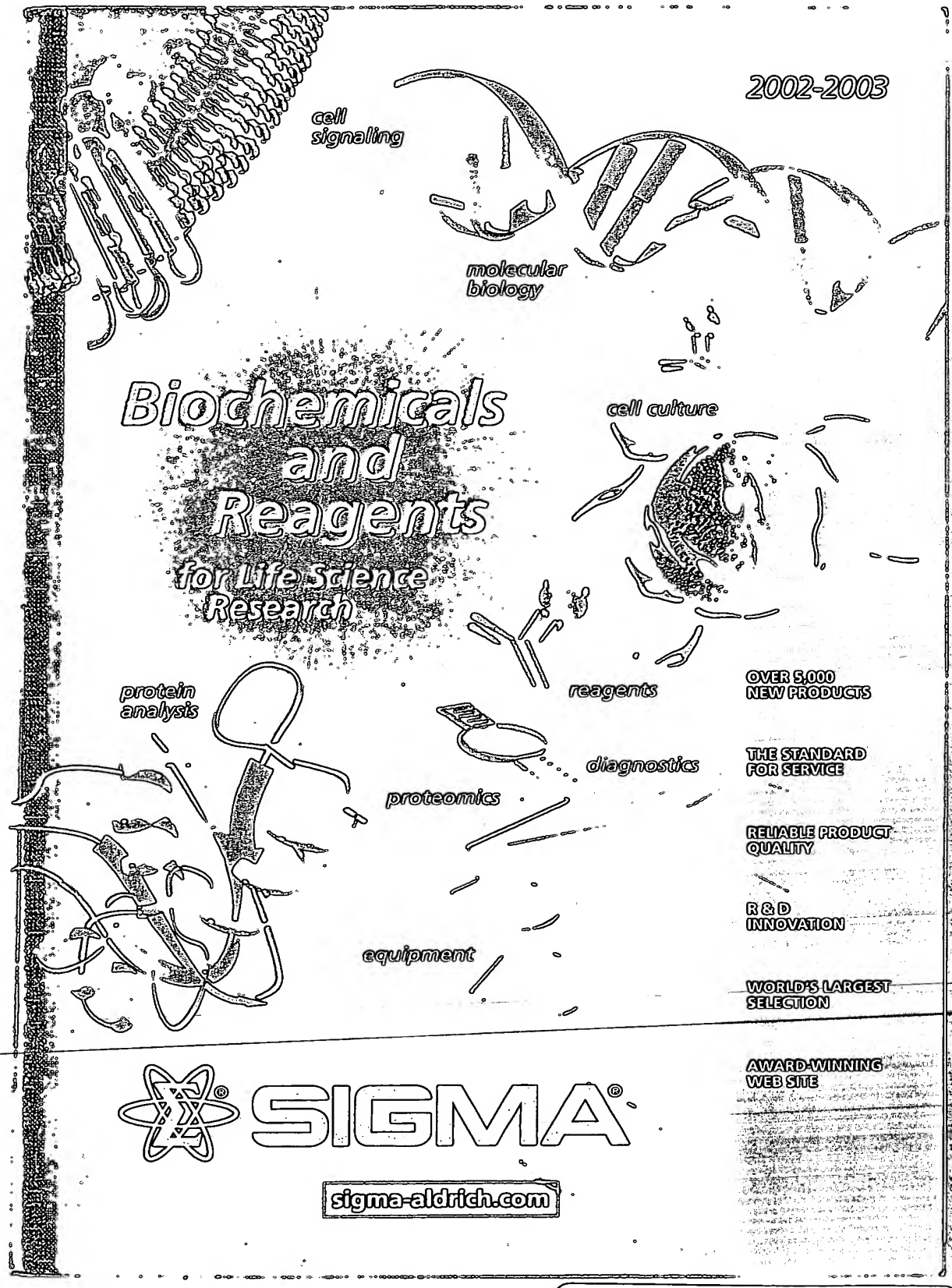

Applicant: Norman Latov et al.
U.S. Serial No.: 10/088,775
Filed: September 16, 2002
Exhibit A

US $

(Continuation of)
Ganciclovir
homologous recombination of a gene of interest is required.
Color ... white
$\varepsilon_{256\ nm}$, 1 mM ... 12.0
Solubility
0.1 N HCl ... 10 mg/mL
Ref.: 1. Sprung, C.N., et al., Chromosome healing in mouse embryonic stem cells. *Proc. Natl. Acad. Sci. USA* **96**, 6781-6786 (1999)
2. Halloran, P.J., and Fenton, R.G., Irreversible G2-M arrest and cytoskeletal reorganization induced by cytotoxic nucleoside analogues *Cancer Res.* **58**, 3855-3865 (1998)
3. Rubsam, L.Z., et al., Cytotoxicity and accumulation of ganciclovir triphosphate in bystander cells cocultured with herpes simplex virus type 1 thymidine kinase-expressing human glioblastoma cells. *Cancer Res.* **59**, 675 (1999)
4. Oon, C.J., et al., Hepatitis B virus variants with lamivudine-related mutations in the DNA polymerase and the 'a' epitope of the surface antigen are sensitive to ganciclovir. *Antiviral Res.* **41**, 113-118 (1999)
5. Cannon, J.S., et al., Human herpesvirus 8-encoded thymidine kinase and phosphotransferase homologues confer sensitivity to ganciclovir. *J. Virol.* **73**, 4786-4793 (1999)
6. Yamasaki, H., et al., Role of connexin (gap junction) genes in cell growth control and carcinogenesis. *C.R. Acad. Sci. III* **322**, 151-159 (1999)
R: 46-60-61 S: 53-45-36/37/39

Ganglioside G_{D1a}, disialo See: Disialoganglioside G_{D1a} *Page 725*

Ganglioside G_{D1b}, disialo See: Disialoganglioside-G_{D1b} *Page 725*

Ganglioside G_{M1}, asialo See: Asialoganglioside G_{M1} *Page 223*

Ganglioside G_{M2}, monosialo See: Monosialoganglioside G_{M2} *Page 1437*

Gangliosides Purified 10 mg 59.20
G 2375 **from bovine brain** 25 mg 108.90
-0°C **Type III** 100 mg 321.90
Gangliosides are major constituents of neuronal cell membranes and endoplasmic reticulum; contain a sialated polysaccharide chain linked to ceramide through a β-glycosidic linkage; for classification of gangliosides see Svennerholm, L., et al. (eds.), *Structure and Function of Gangliosides*, New York, Plenum, 1980.
A family of glycosphingolipids isolated from bovine brain
N-acetylneuraminic acid ... approx. 20%
Ref.: 1. Itoh, et al., Prevention of the death of the rat axotomized hypoglossal nerve and promotion of its regeneration by bovine brain gangliosides. *Glycobiology* **9**, 1247-1252 (1999)
2. Yamakawa, Reflections on biochemistry. Thus started ganglioside research *Trends Biol. Sci.* **13**, 452-454 (1988)

Ganglioside G_{T1b} See: Trisialoganglioside-G_{T1b} *Page 2089*

Gangliotetraosyl ceramide See: Asialoganglioside G_{M1} *Page 223*

Gangliotriosyl ceramide See: Asialoganglioside-G_{M2} *Page 223*

NEW **Monoclonal Anti-GAP1^{IP4BP}** 0.2 mL 194.95
G 6666 **from mouse**
-20°C **approx. 2 mg/mL, Buffered aqueous solution, Purified immunoglobulin, Clone GP-3**
DRY ICE
Immunogen: recombinant human GAP^{IP4BP}
Solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide
Antigen mol wt approx. 100 kDa
Species reactivity: human
Application(s)
Immunocytochemistry ... suitable
Indirect ELISA ... suitable
Isotype ... IgG2b
Application(s)
Immunoblotting . 1-2 µg/mL using human platelets extract

GAP-DH See: Glyceraldehyde-3-phosphate Dehydrogenase *Page 1430*

Gardnerella vaginalis selective supplement 1 vial 28.80
G 4539
2-8°C
WET ICE
Composition: (per vial)
Gentamicin sulfate: 2.00 mg
Nalidixic acid: 15.00 mg
Amphotericin B: 1.00 mg
An antibiotic supplement recommended for the selective isolation of *Gardnerella vaginalis*.
Sufficient for 500 ml medium
R: 61-20/21-36/38-42/43 S: 53-22-45-36/37/39

Gassner lactose agar 500 g 66.40
G 9431
RT
Ingredients (g/L)
Meat peptone, 7.00
Sodium chloride, 5.00
Lactose, 50.00
Metachrome yellow, 1.25
Water blue, 0.625
Agar, 13.00
Used for detection and isolation of pathogenic *Enterobacteriaceae*.
Ref.: Gassner, G., *Centralbl. F. Bakt. I. Orig.* **80**, 219 (1918)

Gastric Inhibitory Polypeptide Human See: Gastrointestinal Peptides *Page 921*

Gastric Inhibitory Polypeptide Porcine See: Gastrointestinal Peptides *Page 921*

Monoclonal Anti-Gastric Mucin 0.2 mL 67.90
M 5293 **from mouse** 0.5 mL 135.50
-20°C **Liquid, Ascites fluid, Clone 45M1**
DRY ICE
Immunogen: mucin from human ovarian cyst fluid
The product recognizes the mucin epitope g located in the peptide core of gastric mucin (>1,000 kDa). This epitope is completely destroyed by thiol reduction (using mercaptoethanol) and partially lost following trypsin proteolysis, but is stable upon periodate oxidation. The antibody reacts with ethanol-fixed, cultured epithelial cells and ethanol or formalin-fixed, paraffin-embedded tissue sections. It stains the surface gastric epithelium of normal human gastrointestinal tract and reacts with fetal, pre-cancerous and cancerous colonic mucosa, but not with normal colon. It may be used in immunoblotting (non-reducing conditions), immunocytochemistry, immunohistochemistry and immunoradiofixation. Enzymatic pretreatment of formalin-fixed, paraffin-embedded sections may enhance staining intensity.
Species reactivity: chicken, hedgehog, pig, rabbit, rat, mouse, monkey, human
contains 15 mM sodium azide
Application(s)
Immunoblotting . . . suitable using non-reducing conditions
Immunohistochemistry (formalin-fixed, paraffin-embedded sections) . . . 1:200 using formalin-fixed, paraffin-embedded sections of human stomach
Immunocytochemistry ... suitable
Isotype ... IgG1
Ref.: 1. Bara, J., et al., *J. Immunol. Meth.* **149**, 105 (1992)
2. Bara, J., et al., *Int. J. Cancer* **47**, 304 (1991)